C:\Program Files\Microsoft Office\Media\CntCD1\ClipArt7\j0301082.wmfName: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Planetary Weather Honors**

There are many factors that affect the weather on the planets. How do they all combine to make each planet’s weather?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Planet | Tilt of Axis (degrees) | Average Distance from the Sun (106 miles) | Percent Difference Between Closest and Farthest Distance from Sun | Pressure of Atmosphere (thickness) | Length of Day  (hours) |
| Mercury | 0.01 | 36 | 20.5 | 0 | 4222 |
| Venus | 177.4 | 67 | 0.7 | 92 | 2802 |
| Earth | 23.5 | 93 | 1.7 | 1 | 24 |
| Mars | 25.2 | 142 | 9.4 | .01 | 24.7 |
| Jupiter | 3.1 | 484 | 4.8 | 100 | 9.9 |
| Saturn | 26.7 | 891 | 5.6 | 100 | 10.7 |
| Uranus | 97.8 | 1785 | 4.5 | 100 | 17.2 |
| Neptune | 28.3 | 2793 | 1.1 | 100 | 16.1 |

**Tilt and Seasons-**  
 1. How does tilt affect seasons?

2. Use the “tilt of axis” column to see if each planet’s seasons would be longer, about the same   
 or shorter than Earth’s. Write your answers below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mercury | Venus | Mars | Jupiter | Saturn | Uranus | Neptune |
|  |  |  |  |  |  |  |

**Distance from the Sun and Temperature-**

3. How does distance from the sun affect temperature?

4. Use the “average distance from sun” column to see if each planet’s temperature would be   
 cold, medium or hot. Write your answers below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mercury | Venus | Mars | Jupiter | Saturn | Uranus | Neptune |
|  |  |  |  |  |  |  |

**Thickness of Atmosphere and Temperature-**

5. How does thickness of the atmosphere affect temperature?

6. Use the “pressure of atmosphere” column to see if each planet’s temperature would be   
 cold, medium or hot. Write your answers in the chart below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mercury | Venus | Mars | Jupiter | Saturn | Uranus | Neptune |
|  |  |  |  |  |  |  |

**Distance from the Sun and Temperature Range-**

7. How does % difference in distance from the sun affect temperature range?

8. Use the “percent difference” column to see if each planet’s range of temperatures would be   
 big, medium or small. Write your answers in the chart below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mercury | Venus | Mars | Jupiter | Saturn | Uranus | Neptune |
|  |  |  |  |  |  |  |

**Length of Day and Temperature Range-**

9. How does length of day affect temperature range?

10. Use the “length of day” column to see if each planet’s range of temperatures would be big,   
 medium or small. Write your answers in the chart below.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Mercury | Venus | Mars | Jupiter | Saturn | Uranus | Neptune |
|  |  |  |  |  |  |  |

**Conclusion-**

1. Look at each of your answers to fill out the chart below.

|  |  |  |  |
| --- | --- | --- | --- |
| Planet | Length of Season  (long, medium or short) | Overall Temperature  (cold, medium or hot) | Overall Range of Temperatures  (big, medium or small) |
| Mercury |  |  |  |
| Venus |  |  |  |
| Mars |  |  |  |
| Jupiter |  |  |  |
| Saturn |  |  |  |
| Uranus |  |  |  |
| Neptune |  |  |  |

1. Give each category a score from 1 to 5 for how much you think it influences the overall weather on each planet (1 for most and 5 for least).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Planet | Tilt of Axis | Distance from Sun | Thickness of Atmosphere | Percent Difference | Length of Day |
| Mercury |  |  |  |  |  |
| Venus |  |  |  |  |  |
| Mars |  |  |  |  |  |
| Jupiter |  |  |  |  |  |
| Saturn |  |  |  |  |  |
| Uranus |  |  |  |  |  |
| Neptune |  |  |  |  |  |